April 2008

Mine Action and the Environment

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Initial Iraq Landmine Impact Survey Completed

The first phase of a three-year survey on 13 of Iraq’s 18 provinces has been completed. The Landmine Impact Survey is an important tool for the government of Iraq and international donors, allowing a temporary blueprint to be made for clearance of landmines, unexploded ordnance, abandoned munitions and other explosive remnants of war. Such hazards threaten one in every five Iraqis, according to the U.S. Department of State, whose Office of Weapons Removal and Abatement funded the US$4 million survey.

The survey was conducted in the provinces of Babylon, Baqubah, Duhok, Kirkuk, Kerbala, Missan, Muthanna, Najaf, Qadissiya, Sulaymaniyah, Tameem and Wasit. Work will proceed in the remaining five provinces—Al-Anbar, Baghdad, Diyala, Nineva and Salah ad-Din—as security conditions permit.

The survey will allow the government and international donors to improve the allocation of demining and clearance resources. It was completed, the State Department reports, by Iraqi citizens, including teachers and doctors, and was done via foot, car, tractor and even donkey. The survey has been working in the field of environmental impact of mines since 1992.

Dr. Raafat Misak has 40 years’ experience in landmine studies. He is a published author, with 60 scientific papers and five books to his credit. He has been working in the field of environmental impact of mines since 1992.

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Paktian: Mine Action and the Environment

Mine Action and the Environment

While global warming is a hot environmental topic these days, and scientists agree that unless we act soon to significantly reduce global pollution, average temperatures will continue to rise, causing heat waves, rising sea levels, droughts and wildfires. It is also important to look at mine-action procedures and activities to ensure our industry is in compliance with the world’s requirements on environment protection. There is perhaps a need, more than ever before, to remind national mine-action authorities and demining organisations of their responsibility to ensure that demining operations not only be carried out in a safe, effective and efficient manner, but also in a manner that minimises any impact on the environment.

by Faiz Paktian | Geneva International Centre for Humanitarian Demining

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ts continued efforts to provide the mine-action community with consistent and globally relevant International Mine Action Standards, the United Nations Mine Action Service and the Geneva International Centre for Humanitarian Demining have been involved in the development of a standard on the protection of the environment. This standard will provide guidelines as to the minimum measures to guarantee environments affected by demining operations, particularly stockpile destruction, are safe and fit for their intended use once demining operations are completed.

When we talk about “environment,” we mean the surroundings in which an organisation operates. The new standard will emphasise that demining operations should be carried out in a way that minimises damage to property and infrastructure and is safe for local communities and demining staff. Planning for demining operations must take into account the effects of operations and any supporting activities, on the environment, and any possible damage to property, infrastructure or personnel. Demining organisations should ensure that the land over which demining operations have taken place—including land used for administrative or support purposes, such as temporary accommodation facilities and support areas—is suitable for its intended use once demining operations cease. Particular attention should be given to property, infrastructure or land required for subsistence or economic purposes to ensure that these activities can continue after demining operations have been completed.

Activities That May Damage the Environment

Demining operations have the potential to damage the environment in which they are conducted. This damage not only includes the short-term effects caused by demolition activities, but also long-term effects that may be caused by contamination of soil and water systems, removal of vegetation, disruption to waterscapes or changes to soil structure. Demining operations may also damage the natural habitats of insects or wildlife and affect areas of historical or cultural significance. The following are some extract from the forthcoming standard that discusses potential demining activities that may damage the environment:

Use of machines in support of mine clearance. Where mechanical operations involve the removal of vegetation, or occur on ground that may be subject to erosion, demining organisations must ensure that, as far as practically possible, measures are taken to secure the regeneration of vegetation, and to limit erosion.

Explosive ordnance disposal. Mines and explosive remnants of war should be disposed of in a manner that minimizes environmental impact without creating damage to property or infrastructure. If mines or ERW must be destroyed in situ and there is a risk to property or infrastructure, protective measures must be taken. If, even with those measures there is still a risk of damage to property or infrastructure, authorities and local communities must be consulted about the operation.

Disposal of debris, rubble and wire. Debris, rubble, wire and any other remains of obstacles removed from a demining worksite must be disposed of in accordance with local waste-management regulations and requirements of the national authority. When applicable local community members should be consulted about such disposal.

Disposal of toxic and hazardous waste. Tonic and hazardous waste are not normally found in landmines; however, asbestos chemicals and liquid propellants can be found in missiles and fusing systems. Also, chemical weapons—including chlorine and mustard-gas munitions and depleted-uranium projectiles—may be encountered. Other examples of
Waste water. Waste water from washing, bathing or kitchen areas must be drained into soak pits large enough to take the amount of water generated.

Domestic waste water. The provision of domestic water to be carried out in a manner that does not affect the supply to the local communities, unless the local communities have been consulted on this matter and have agreed to any arrangements made.

Fuel, oil and lubricant areas. Demining organisations must ensure that procedures are in place to contain and quickly clean up any FOL spills. Contaminated materials containing spilled FOL should be collected and disposed of at controlled landfill facilities. Alternatively, the material should be disposed of at a specific site where leakage into the soil is prevented. Where it is necessary to establish FOL facilities, precautions must be taken to ensure that FOL is stored safely and does not contaminate the soil or groundwater.

Maintenance areas. When servicing, repairing or washing vehicles, machines and equipment at workshops, specific areas must be designated for this activity. The following environmental precautions should be taken:

- Wastewater must not be released so that it will enter water courses; drained oil must be contained using a drip pan or other suitable receptacle and disposed of in an environmentally acceptable manner, and used parts, byproducts of maintenance or other rubbish must be disposed of properly.

- Complications of demining operations. On completion of demining operations, all buildings, machinery and surplus materials, fencing (except that marking hazardous areas) and other such items must be removed.
- Toilets, soak pits and rubbish pits must be filled in, covered with soil and have their surfaces stabilised to prevent erosion and to allow natural regeneration of vegetation. As far as practicable, all disturbed areas should be restored to their original condition.

- Transportation of hazardous materials. During the transporta- tion of any hazardous, toxic or flammable materials with the potential to damage the environment, precautions must be taken to ensure that risk is minimised. These should include: all materials to be transported in containers that will minimise or prevent spills or leakage; materials to be securely loaded in the transport; fire precautions to be taken. Toilets, soak pits and rubbish pits must be filled in, covered with soil and have their surfaces stabilised to prevent erosion and to allow natural regeneration of vegetation. As far as practicable, all disturbed areas should be restored to their original condition.

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- Final disposal of hazardous materials. The material should be disposed of in accordance with national policies.
- Avoces of cultural or historical significance. Demining operations may occur in locations where there are areas of cultural or historical significance. Where this occurs, demining organisations should take all possible steps to prevent damage to these sites. Such action may dictate that any mines or ERW found at the worksite be removed to another area for destruction. In such areas, additional precautions are necessary, protective measures must be taken. If any area is located during demining operations and is suspected of being of cultural or historical significance, work in that area should cease and the matter should be reported to the national authority. Where human remains are encountered during demining operations, action in accordance with international humanitarian law and the relevant national law. The national demining agency may conduct investigations into environmental incidents that occur during demining operations.

Conclusion

It is the responsibility of the national authority in a mine-affected country to:
- Document its environmental management policy in national mine-action standards or other relevant publications. Such environmental-management policies must be in accordance with national policies.
- Monitor compliance by demining organisations with documented environmental management requirements.
- Ensure that the protection of the environment is taken into account during planning for demining operations.
- Maintain records of reported environmental incidents; when necessary, conduct investigations into environmental incidents; and promulgate information about significant environmental incidents to other demining organisations within the programme.
- In the responsibility of the demining organisations to:

- Comply with the national authority environmental management policy
- Document their own environmental management requirements in standard operating procedures or other relevant documents and ensure that all personnel are aware of them.
- Ensure that the protection of the environment is a factor in planning and conducting all demining operations
- Maintain records and report any significant environmental incidents to the national authority or an organisation acting on its behalf.

Finally, it is the responsibility of national mine-action authorities and demining organisations to ensure that operations are not only safe, effective and efficient, but also carried out with minimal environmental impact.